

Maunabo Area Ground Water Contamination Site

Puerto Rico

EPA ID#: PRN000205831

EPA REGION 2

Congressional District(s): 02

Maunabo Municipality

Maunabo, Puerto Rico

NPL LISTING HISTORY

Proposed Date: 4/19/2006

Final Date: 9/27/2006

Site Description

The Maunabo Area Ground Water Contamination site consists of a ground water plume with no identified source(s) of contamination. It is located in the municipality of Maunabo, Puerto Rico, in the southeastern area of the island. The size of the plume of contamination has not been determined yet, but EPA is currently conducting work to better define the nature and extent of the contamination.

The Maunabo public water system consists of four ground water wells: Maunabo 1, Maunabo 2 (Bordaleza), Maunabo 3 (Calzada), and Maunabo 4 (San Pedro). Maunabo 1 went into service in 2001, while the other wells were in service prior to that time. Ground water samples collected by the system's operator, the Puerto Rico Aqueduct and Sewer Authority (PRASA), indicate that chlorinated solvents have been detected in Maunabo 1 since March 2002. At that time, the Puerto Rico Department of Health ordered PRASA to close the well because the concentration of one of the solvents exceeded the federal Safe Drinking Water Maximum Contaminant Level (MCL). However, PRASA opted to treat the ground water with carbon filtration tanks at the wellhead rather than close the well in order to meet water supply needs. Since then, the detections of solvents in raw ground water samples from Maunabo 1 have exceeded the MCL on numerous occasions. Samples taken after treatment, including tap water samples collected along the distribution system down-line from Maunabo 1, indicate that the treatment has not been effective. PRASA has installed new activated carbon filtration units to treat the water. PRASA is conducting a break-through study to determine the efficacy of the supplied activated carbon units.

Threat and Contaminants

The contaminants of concerns are industrial solvents, including tetrachloroethene (PCE), trichloroethene (TCE), and cis-1,2-dichloroethene (DCE). Of these, PCE has been detected above federal MCLs in drinking water supplies.

Ground water and distribution water samples collected by EPA in October 2005 confirm the presence of PCE and cis-1,2-DCE in Maunabo 1 and in post-treatment samples along the distribution line. These most recent results also indicate the presence of a related compound, 1,1-DCE, in Maunabo 4, which may indicate the spreading of contamination.

The Maunabo Urbano water system serves a total population of approximately 14,000 people apportioned equally among the four public supply wells (i.e., 3,500 per well). Therefore, the contaminated wells in this system, Maunabo 1 and 4, serve almost 7,000 people. Wellhead Protection Areas are delineated for the public supply wells, so the plume lies within a designated Wellhead Protection Area.

The Agency for Toxic Substances and Disease Registry (ATSDR) evaluated available data and the site conditions, and conducted a site visit to complete a Public Health Assessment. A Public Health Assessment was prepared dated May 30, 2008 and it was released for public comments. ATSDR concluded that the Maunabo Urbano Public Wells have exceeded EPA's MCLs for PCE and DCE in the past. However, exceedences were intermittent and did not exceed ATSDR's health based comparison values. ATSDR also concluded that current and future conditions at this site have no apparent public health hazard. This designation means that although people may have been exposed to PCE and DCE, the exposure concentrations were at levels that would not result in any adverse effects.

Cleanup Approach

EPA is investigating the contamination at the wells, including efforts to locate the source(s) of the contamination. In November 2005, EPA began a limited sub-surface geological work to assist in this effort. Preliminary results had not

identified the source of contamination. Searching for a responsible party will continue as a funded lead full Remedial Investigation and Feasibility Study (RI / FS) is implemented.

Cleanup Progress

A fund lead full Remedial Investigation (RI) followed by a Feasibility Study (FS) will be initiated on 2009.

Site Repositories

US EPA Region 2 / New York Regional Office / Superfund Program Emergency and Remedial Response Division (ERRD) / 26-th Floor 290 Broadway Ave., New York, NY 10007

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